

canadensis Easton—Alaska, Yukon, British Columbia, Alberta, Quebec, California, Utah and Colorado.

cleominis Easton—British Columbia to Manitoba and south to Arizona.

dauricus Motschulsky—a Holarctic species, in North America present in western Canada, western United States, adjacent Mexico and east to Kansas and Nebraska.

nigrescens Stephens—a Holarctic species, in North America ranging from Yukon to Oregon and Ontario in the west, and from Massachusetts to Maryland and Indiana in the east.

simplipes Easton—Ontario and eastern United States to Ohio and Tennessee.

saevus LeConte—Manitoba to Iowa and Kansas.

atratus Olivier—a Palearctic species, but a single specimen has been reported from British Columbia.

pinguis Horn—the unique type is from Newfoundland.

LITERATURE CITED

- EASTON, A. M. 1947. An addition to the Nearctic Nitidulidae. Ann. Mag. Nat. Hist., ser. 11, Vol. 14:60-64.
- 1955. A Revision of the Nearctic Species of the Beetle Genus *Meligethes*. Proc. U.S.N.M. 104:87-103.
- 1959. A New Nearctic Species of *Meligethes*. Ent. Mon. Mag. 95:58-60.
- LECONTE, J. L. 1857. Report upon insects, etc. Pacific R. R. Rep., Vol. 12, book 2, pt. 3, no. 1, p. 37.
- MOTSCHULSKY, VICTOR DE. 1849. Bull. Moscow 22 (3):93.
- DESCRIPTORS: Coleoptera; Nitidulidae; *Meligethes*; classification.

3.0005 A new species of *Psephenus* from Arizona (Coleoptera, Psephenidae).

HARLEY P. BROWN

DEPARTMENT OF ZOOLOGY, UNIVERSITY OF OKLAHOMA
NORMAN, OKLAHOMA 73069

Recent unpublished work by Chad Murvosh and Paul Spangler indicates that *Psephenus calaveras* Blaisdell 1923, *P. lanei* Blaisdell 1923, *P. falli* Casey 1893, and *P. veluticollis* Casey 1893 are all synonymous with *P. haldemani* Horn 1870. Thus, at present, the Genus *Psephenus* Haldeman 1853 is represented in the United States by only three recognized species: *P. herricki* (DeKay) 1844 in the eastern states, *P. haldemani* in California, Oregon, Idaho, and western Wyoming, and *P. texanus* Brown and Arrington 1967 in southwestern Texas.

A population of *Psephenus* occurs in central Arizona which represents a new species. I hereby name it in honor of Chad M. Murvosh, who has seen larval specimens and who will probably be the next person to publish on this species.

Psephenus murvoshi Brown, NEW SPECIES

Holotype male—Length 3.2 mm, greatest width 1.6 mm (Fig. 1). Oblong-oval, moderately depressed, densely pubescent; shining above, head nigro-piceous except for testaceous area

immediately posterior to eye; pronotum nigro-piceous; elytra fuscous; eyes and antennae fusco-cinereous; anterior surface of first antennal segment blackish; coxae and basal portions of femora testaceous shading to fuscous apically on the dorsal surface; tibiae nigro-fuscous; tarsi rufo-fuscous to testaceous; labrum, maxillary palps, and most ventral sclerites fusco-cinereous except for the following testaceous parts: epipleura of elytra, apical margin of fourth abdominal segment, on the fifth abdominal segment a small median basal area expanding abruptly to encompass most of the apical portion, and all the visible portions of the sixth and seventh abdominal segments; labial palps testaceous.

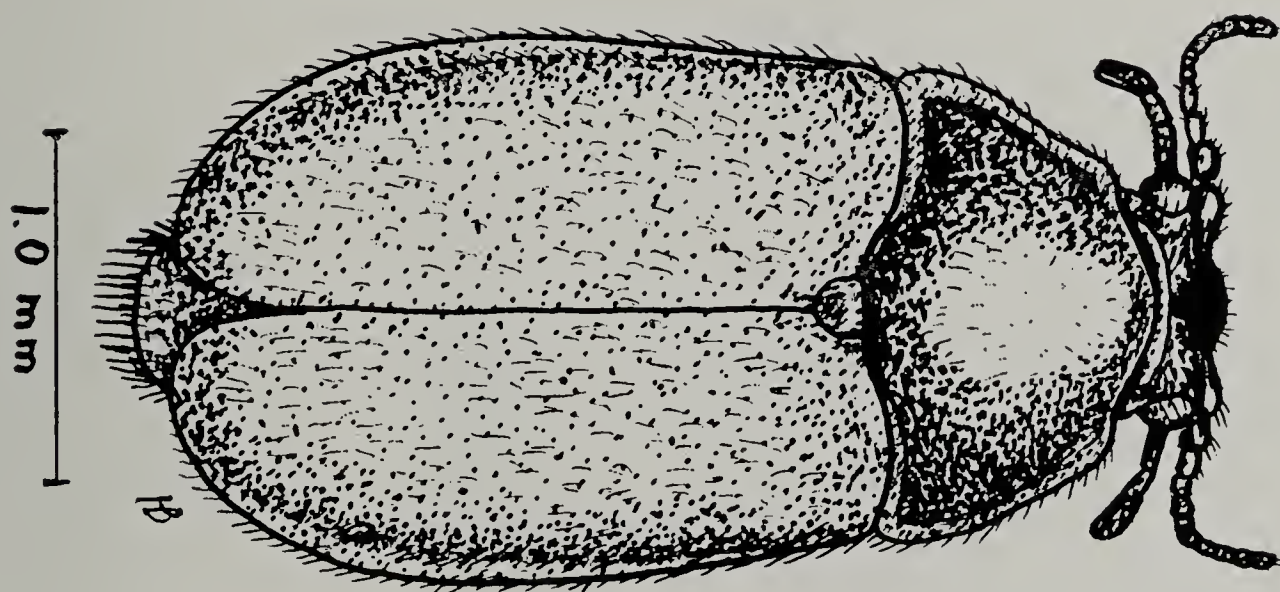


Fig. 1. *Psephenus murvoshi* Brown, new species. Dorsal aspect of male.

Head transverse, densely and minutely punctate; vertex with a median longitudinal impression which expands anteriorly to a broad concavity across the frons; with a transverse occipital ridge crossing head behind eyes; raised apical margin evenly arcuate between bases of antennae. Eyes prominent, hemispherical. Antennae short, hardly extending to base of elytra; pubescent; setae on dorsal and anterior surfaces of three basal segments most prominent; first segment longest and most inflated, second segment next in both length and width, third subequal to second in length but slenderer, fourth slightly shorter, fifth to tenth still shorter and subequal, eleventh subequal to third and with a slight apical tuft of setae (Fig. 2). Clypeus and labrum, as seen from the front, arcuately emarginate apically (Fig. 2), the labrum covered by a mustache of yellowish hairs. Maxillary palp (Fig. 2) four segmented, about three-quarters as long as antenna; basal segment smallest, about one-fifth as long as second; second segment longest and rather slender; third segment slightly over half as long as second and flaring apically; fourth segment almost as long as second, laterally compressed and expanded dorso-ventrally, the outer margin bearing a glabrous ridge which terminates apically in a loop. Labial palp testaceous, three-segmented; first and second segments broad and subequal; third segment small and white-tipped; with sparse but prominent ventrally-directed setae.

Pronotum about five-eighths as long as wide; convex; densely minutely punctate; apex feebly bisinuate, about three-fifths as wide as base; sides explanate, converging toward apex, feebly arcuate to feebly sinuate; base distinctly bisinuate; apical angles broadly rounded; basal angles bluntly acute, turned slightly inward.

Elytra widest near middle; apices separately rounded and slightly divergent; densely and minutely punctate; pubescence dense, consisting of golden hairs; sides feebly explanate, the



Fig. 2. *Psephenus murvoshi* sp. n. Anterior aspect of clypeus, labrum, labial palps, left antenna, and left maxillary palp.

margins paler in color. Scutellum rounded behind, slightly transverse, densely pubescent, with a feeble median impression near posterior margin.

Prosternal process long, narrow, pubescent, carinate along midline, and projecting about one-quarter of the length of the groove between the mesocoxae into which it is inserted. Fifth ventral abdominal segment arcuately emarginate, exposing the lateral apical lobes of the deeply incised sixth segment; seventh segment rounded at apex. Outer carina of fore and middle tibiae dividing or expanding slightly before middle, that of hind tibia dividing in apical quarter; tibiae slender; first segment of fore and middle tarsi with densely pubescent pad beneath; tarsal claws not perceptibly toothed at base.

Aedeagus trilobate (Figs. 3-5). Parameres broad basally, tapering to bluntly rounded apices as seen in dorsal aspect. Median lobe stout; midventral sclerotized portion ("penial spicule" of Brown and Arrington, 1967) well developed, elongate, length more than twice the width, rounded basally and acute apically. Basal piece well developed, hemicylindrical, with dorsal side open (unsclerotized).

Female.—Unknown.

Holotype—U. S. A., Arizona, East Verde River near Payson, July 8, 1969, H. P. Brown. Deposited in Stovall Museum of Science and History, Norman, Oklahoma.

Comparative notes. *Psephenus murvoshi* sp. n. is similar to *P. usingeri* Hinton 1934 in size and general aspect, but differs in having a bicolored dorsum, distinctly different aedeagus, proportionately longer maxillary palp, apical segment of palp subequal in length to second, compressed and enlarged. The second segment of the palp in *P. usingeri* is longer than segments three and four combined (Hinton, 1934). From *P. haldemani* Horn it differs in size, being obviously smaller (specimens of *P. haldemani* in my collection range from 3.5 to 5.0 mm in length), in having a bicolored dorsum and various testaceous underparts as contrasted with the uniformly dark coloration of *P. haldemani*, and in such features of the aedeagus as the tapered paramere; and broader ventral penial sclerite. *P. murvoshi* sp. n. differs from *P. texanus* Brown & Arrington in its smaller size (the latter ranges from about 4.0 to 5.5 mm), arcuate rather than bisinuate frontal margin, proportionately longer maxillary palp (that of *P. texanus* is only about half as long as antenna), and in the structure of the aedeagus (Figs. 3-5, 6-8).

Distribution. Although the holotype described above from the East Verde River in Gila County is the only specimen in my collection, I observed

psephenid eggs in West Clear Creek southeast of Camp Verde in Yavapai Co. and in the Agua Fria River near Black Canyon City, Yavapai Co. Murvosh, in a paper presented at the Dallas meeting of the Entomological Society of America in 1968, mentioned receiving larval psephenids collected in Oak Creek Canyon, presumably in Coconino Co. south of Flagstaff. Since the East Verde River, West Clear Creek and Oak Creek are all tributaries of the Verde River, which parallels the Agua Fria River, both flowing into the Salt River near Phoenix, and since no other psephenids are known from the region, it is reasonable to assume that all of the records listed above represent *Psephenus murvoshi* sp. n.

The affinities of this species are probably with Mexican species, rather than with others known from the United States.

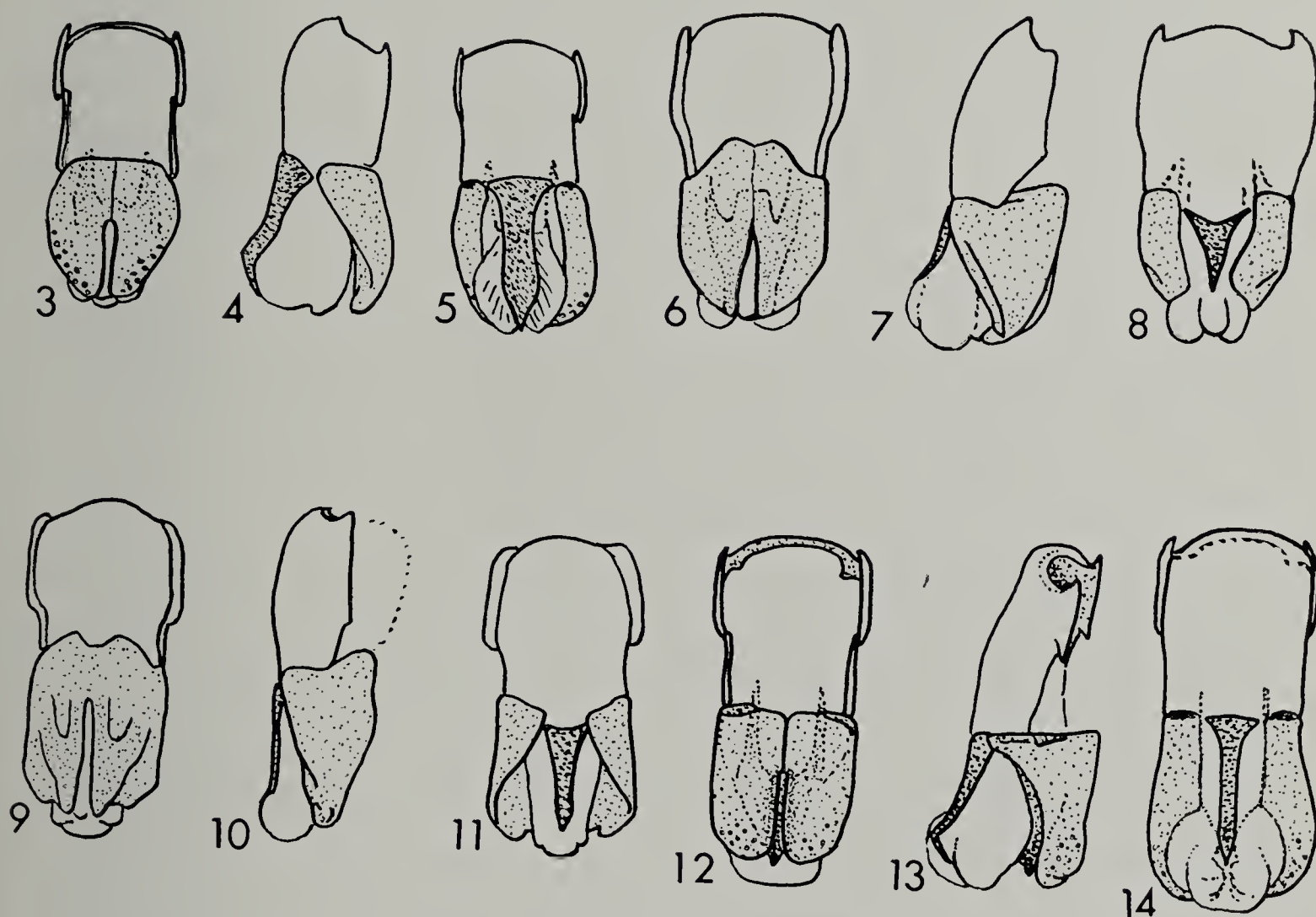


Fig. 3. *P. murvoshi* sp. n. Aedeagus, dorsal aspect.

Fig. 4. *P. murvoshi* sp. n. Aedeagus, lateral aspect from left side.

Fig. 5. *P. murvoshi* sp. n. Aedeagus, ventral aspect. Ventral sclerite of penis heavily stippled.

Fig. 6. *P. texanus*. Aedeagus, dorsal aspect.

Fig. 7. *P. texanus*. Aedeagus, lateral aspect from left side.

Fig. 8. *P. texanus*. Aedeagus, ventral aspect.

Fig. 9. *P. herricki*. Aedeagus, dorsal aspect.

Fig. 10. *P. herricki*. Aedeagus, lateral aspect from left side.

Fig. 11. *P. herricki*. Aedeagus, ventral aspect.

Fig. 12. *P. haldemani*. Aedeagus, dorsal aspect.

Fig. 13. *P. haldemani*. Aedeagus, lateral aspect from left side.

Fig. 14. *P. haldemani*. Aedeagus, ventral aspect.

KEY TO SPECIES OF PSEPHENUS IN THE UNITED STATES

(Based upon male specimens)

1. Anterior margin of head distinctly bisinuate; ventral sclerite of penis almost as wide as long, emarginate at base (Figs. 6-8); in southwestern Texas **P. texanus** Brown and Arrington 1967
Anterior margin of head not distinctly bisinuate, usually arcuate; ventral sclerite of penis at least twice as long as wide 2
- 2 (1) Maxillary palp about half as long as antenna; ventral sclerite of penis emarginate at base (Figs. 9-11); in eastern states, extending south and west to eastern Oklahoma **P. herricki** (DeKay) 1844
Maxillary palp distinctly longer (two-thirds to three-fourths as long as antenna); ventral sclerite of penis arcuate at base 3
- 3 (2) Coloration uniformly dark; maxillary palp about two-thirds as long as antenna; total length about 3.5-5.0 mm; tarsal claws toothed at base; ventral sclerite of penis slender, parameres of aedeagus subparallel in dorsal aspect (Figs. 12-14); in California, Oregon, Idaho, western Wyoming **P. haldemani** Horn 1870¹
Dorsum bicolored; epipleura, bases of femora, etc. light in color; maxillary palp about three-quarters as long as antenna; total length less than 3.5 mm; tarsal claws not appreciably toothed at base; ventral sclerite of penis relatively broad, parameres with lateral margins tapering distally from near middle (Figs. 3-5); in central Arizona **P. murvoshi** Brown, NEW SPECIES

ACKNOWLEDGMENTS

This study was supported by the Stovall Museum of Science and History, University of Oklahoma, Norman, and by the Faculty Research Fund of the University of Oklahoma.

LITERATURE CITED

- BROWN, H. P. and R. ARRINGTON, JR. 1967. A new species of *Psephenus* from Mexico and Texas (Coleoptera, Dryopoidea, Psephenidae). *Coleop. Bull.* 21 (3): 86-91.
HINTON, H. E. 1934. *Psephenus usingeri*, n. sp. from Mexico with notes on the regional *Ps. palpalis* (Coleoptera, Psephenidae). *Ann. Ent. Soc. America* 27 (4) 616-618.

¹Note added in proof: In a telephone conversation concerning this manuscript, Dr. Murvosh questioned the validity of the record of *Psephenus haldemani* from western Wyoming, suggesting that the larval specimens upon which the record was based were probably those of *Eubrianax* since they were taken at elevations well above those recorded for North American species of *Psephenus*. He also reported the finding of adult specimens of *Psephenus haldemani* in Oak Creek, Arizona, which would indicate that my surmise as to the distribution of *P. murvoshi* sp. n. and the identity of the larvae he has seen from Oak Creek are probably in error. Thus, the only definite locality for this new species is the type locality.—H. P. B.

ABSTRACT

BROWN, HARLEY P. (Department of Zoology, University of Oklahoma, Norman, Okla. 73069) A new species of *Psephenus* from Arizona (Coleoptera, Psephenidae). *Coleop. Bull.* *P. murvoshi* Brown, sp. n., is described from the East Verde River near Payson, Arizona. The unique holotype male specimen is deposited in the Stovall Museum of Science and History, Norman, Okla. A key includes illustrations of the male genitalia of all species of *Psephenus* known to occur in the United States.—Author.

DESCRIPTORS: Coleoptera; Psephenidae; new species; Okla., Tex., Ariz., Cal., Ida., Ore.